

**Table S2.** Information of DEGs with lower expression level in EcR prawns.

GeneID	Description	Species
Unigene0041530	Endonuclease-reverse transcriptase	<i>Lasius niger</i>
Unigene0055566	Transposable element tc3 transposase	<i>Lasius niger</i>
Unigene0004363	Single insulin-like growth factor-binding domain protein-2	<i>Cupiennius salei</i>
Unigene0061823	Cuticular protein analogous to peritrophins 1-F, partial	<i>Daphnia magna</i>
Unigene0044620	Apolipoprotein D	<i>Daphnia magna</i>
Unigene0047842	Lathosterol oxidase	<i>Daphnia magna</i>
Unigene0001081	Hypothetical protein, partial	<i>Daphnia magna</i>
Unigene0035595	Cuticle protein, partial	<i>Daphnia magna</i>
Unigene0063944	Daphnid bacterial-ribosomal-RNA-like, possible HGT	<i>Daphnia magna</i>
Unigene0026083	Uncharacterized protein APZ42_034555	<i>Daphnia magna</i>
Unigene0056165	Pro-resilin, partial	<i>Daphnia magna</i>
Unigene0036561	Apolipoprotein D	<i>Daphnia magna</i>
Unigene0066106	Heparan-alpha-glucosaminide N-acetyltransferase	<i>Daphnia magna</i>
Unigene0052919	DNA ligase	<i>Daphnia magna</i>
Unigene0063938	Daphnid bacterial-ribosomal-RNA-like, possible HGT, partial	<i>Daphnia magna</i>
Unigene0023217	AGAP006931-PA	<i>Anopheles gambiae</i>
Unigene0041205	AGAP002074-PA	<i>Anopheles gambiae</i>
Unigene0001866	Gamma-interferon induced thiol reductase GILT3	<i>Scylla paramamosain</i>
Unigene0057102	Vitelline membrane outer layer 1-like protein	<i>Scylla paramamosain</i>
Unigene0004252	Single VWC domain protein 1	<i>Penaeus monodon</i>
Unigene0038524	Single VWC domain protein 1	<i>Penaeus monodon</i>
Unigene0023760	Tetraspanins-like protein	<i>Penaeus monodon</i>
Unigene0008877	Tyrosine-protein phosphatase 10D, partial	<i>Zootermopsis nevadensis</i>
Unigene0016520	Phosphoinositide 3-kinase adapter protein 1, partial	<i>Zootermopsis nevadensis</i>
Unigene0006879	Hypothetical protein L798_05011, partial	<i>Zootermopsis nevadensis</i>
Unigene0022872	N-acetyl-beta-D-glucosaminidase	<i>Macrobrachium nipponense</i>
Unigene0027904	Hemocyanin	<i>Macrobrachium nipponense</i>
Unigene0017828	Delta-6 desaturase	<i>Macrobrachium nipponense</i>
Unigene0008712	Pupal cuticle protein	<i>Cephus cinctus</i>
Unigene0046800	Pupal cuticle protein	<i>Cephus cinctus</i>
Unigene0054046	L-lactate dehydrogenase-like	<i>Cephus cinctus</i>
Unigene0053211	Zinc finger RNA-binding protein, partial	<i>Stegodyphus mimosarum</i>

Unigene0068209	PREDICTED: zinc finger CCCH Domain-containing protein 11A-like	<i>Saccoglossus kowalevskii</i>
Unigene0044808	LOW QUALITY PROTEIN: probable E3 ubiquitin-protein	<i>Saccoglossus kowalevskii</i>
Unigene0005526	GL12602	<i>Drosophila persimilis</i>
Unigene0013440	Cubilin-like	<i>Bombyx mori</i>
Unigene0019752	Cuticular protein RR-2 motif 78 precursor	<i>Bombyx mori</i>
Unigene0002837	Carboxypeptidase inhibitor precursor	<i>Bombyx mori</i>
Unigene0033209	Gastrolith protein 18.2	<i>Cherax quadricarinatus</i>
Unigene0029526	Gastrolith protein 30	<i>Cherax quadricarinatus</i>
Unigene0050714	Post-molt protein 1	<i>Cherax quadricarinatus</i>
Unigene0032773	Cuticle protein 1	<i>Cherax quadricarinatus</i>
Unigene0053211	Zinc finger RNA-binding protein, partial	<i>Stegodyphus mimosarum</i>
Unigene0065726	Sentrin-specific protease 1	<i>Trachymyrmex septentrionalis</i>
Unigene0040009	Hypothetical protein BRAFLDRAFT_63711	<i>Branchiostoma floridae</i>
Unigene0059308	Hypothetical protein BRAFLDRAFT_77273	<i>Branchiostoma floridae</i>
Unigene0059309	Hypothetical protein BRAFLDRAFT_106667	<i>Branchiostoma floridae</i>
Unigene0026889	Hypothetical protein BRAFLDRAFT_63711	<i>Branchiostoma floridae</i>
Unigene0030980	Hypothetical protein BRAFLDRAFT_221813	<i>Branchiostoma floridae</i>
Unigene0067838	Hypothetical protein HELRODRAFT_164914	<i>Helobdella robusta</i>
Unigene0049424	Crustapain	<i>Pandalus borealis</i>
Unigene0034568	C-type lectin	<i>Procambarus clarkii</i>
Unigene0016894	C-type lectin	<i>Procambarus clarkii</i>
Unigene0022558	Strongly chitin-binding protein-1	<i>Procambarus clarkii</i>
Unigene0037661	Calcification-associated peptide-2	<i>Procambarus clarkii</i>
Unigene0039421	Calcification-associated peptide-2	<i>Procambarus clarkii</i>
Unigene0024487	Reverse transcriptase	<i>Daphnia pulex</i>
Unigene0064526	Cuticle protein 6	<i>Blaberus craniifer</i>
Unigene0023218	Cuticle protein 6	<i>Blaberus craniifer</i>
Unigene0017067	Gamma-butyrobetaine dioxygenase-like isoform X2	<i>Lingula anatina</i>
Unigene0052337	Interferon alpha-inducible protein 27-like protein 2B	<i>Lingula anatina</i>
Unigene0023090	Interferon alpha-inducible protein 27-like protein 2A isoform X1	<i>Lingula anatina</i>
Unigene0040810	Uncharacterized 51.9 kDa protein in	<i>Lingula anatina</i>

	rps4-rps11 intergenic region-like	
Unigene0077067	Prolyl tripeptidyl peptidase-like	<i>Lingula anatina</i>
Unigene0000485	Uncharacterized protein LOC107166243	<i>Diuraphis noxia</i>
Unigene0001792	Somatostatin receptor type 2-like	<i>Diuraphis noxia</i>
Unigene0044112	Monocarboxylate transporter 14-like	<i>Halyomorpha halys</i>
Unigene0059050	Esterase E4-like	<i>Litopenaeus vannamei</i>
Unigene0019159	Glucose transporter 2	<i>Litopenaeus vannamei</i>
Unigene0005817	Single VWC domain protein 1	<i>Litopenaeus vannamei</i>
Unigene0018100	Cathepsin L2, partial	<i>Litopenaeus vannamei</i>
Unigene0017001	Ecdysteroid regulated-like protein	<i>Litopenaeus vannamei</i>
Unigene0058008	Single VWC domain protein 1	<i>Litopenaeus vannamei</i>
Unigene0059703	Androgenic gland-specific protein	<i>Macrobrachium rosenbergii</i>
Unigene0077051	VLIG2	<i>Macrobrachium rosenbergii</i>
Unigene0042919	Putative articularin p60, partial	<i>Rimicaris exoculata</i>
Unigene0040043	Histone-lysine N-methyltransferase SETMAR-like	<i>Limulus polyphemus</i>
Unigene0013204	Ryncolin-2-like	<i>Amphimedon queenslandica</i>
Unigene0057925	RNA exonuclease 1 like protein	<i>Melipona quadrifasciata</i>
Unigene0033331	RNA exonuclease 1 like protein	<i>Melipona quadrifasciata</i>
Unigene0013490	CUB domain-containing protein	<i>Oryctes borbonicus</i>
Unigene0046960	C-type lectin-like domain-containing protein PtLP	<i>Portunus trituberculatus</i>
Unigene0056293	C-type lectin-like domain-containing protein PtLP	<i>Portunus trituberculatus</i>
Unigene0054358	C-type lectin 2	<i>Marsupenaeus japonicus</i>
Unigene0029470	DD5	<i>Marsupenaeus japonicus</i>
Unigene0019787	DD5	<i>Marsupenaeus japonicus</i>
Unigene0015318	Lectin C, partial	<i>Marsupenaeus japonicus</i>
Unigene0029471	DD5	<i>Marsupenaeus japonicus</i>
Unigene0044640	DD9A, partial	<i>Marsupenaeus japonicus</i>
Unigene0001656	Obstructor B	<i>Locusta migratoria</i>
Unigene0040077	CUB-serine protease	<i>Panulirus argus</i>
Unigene0052190	Olfactory ionotropic receptor IR4	<i>Panulirus argus</i>
Unigene0003529	Cuticular protein	<i>Tenebrio molitor</i>
Unigene0006726	C-type lectin	<i>Ruditapes philippinarum</i>
Unigene0021532	Serine proteinase stubble	<i>Bactrocera dorsalis</i>
Unigene0031612	PVenom protein 302-like	<i>Parasteatoda tepidariorum</i>
Unigene0047109	Zinc finger protein OZF-like	<i>Parasteatoda tepidariorum</i>
Unigene0060941	Anaphase-promoting complex subunit 10-like	<i>Parasteatoda tepidariorum</i>
Unigene0066088	Tripartite motif-containing 13-like, partial	<i>Strongylocentrotus purpuratus</i>
Unigene0054180	Crustacyanin subunit A	<i>Fenneropenaeus merguensis</i>
Unigene0055661	Tenascin-R	<i>Crassostrea gigas</i>

Unigene0023066	Hypothetical protein CGI_10021602	<i>Crassostrea gigas</i>
Unigene0018807	RNA-directed DNA polymerase (reverse transcriptase) domain containing protein	<i>Haemonchus contortus</i>
Unigene0004592	Uncharacterized protein LOC107334107	<i>Acropora digitifera</i>
Unigene0031789	Protein UBASH3A homolog isoform X2	<i>Polistes canadensis</i>
Unigene0040042	Uncharacterized protein LOC106815379	<i>Priapulus caudatus</i>
Unigene0026156	Circumsporozoite protein-like	<i>Priapulus caudatus</i>
Unigene0018213	Hypothetical protein ALC62_05268	<i>Cyphomyrmex costatus</i>
Unigene0027281	Keratin-associated protein 4-4-like, partial	<i>Biomphalaria glabrata</i>
Unigene0014937	Methionine adenosyltransferase, partial	<i>Ophiopholis sp. KP-2011</i>
Unigene0076836	FLYWCH-type zinc finger-containing protein 1	<i>Toxocara canis</i>
Unigene0043447	Cuticular protein 34	<i>Eriocheir sinensis</i>
Unigene0017103	Cuticular protein 34	<i>Eriocheir sinensis</i>
Unigene0037069	Cuticular protein 34	<i>Eriocheir sinensis</i>
Unigene0035142	Cuticular protein 34	<i>Eriocheir sinensis</i>
Unigene0073146	Cuticular protein 34	<i>Eriocheir sinensis</i>
Unigene0004362	TPA_inf: hypothetical secreted protein 323	<i>Amblyomma variegatum</i>
Unigene0064815	Nepilysin-2-like	<i>Cerapachys biroi</i>
Unigene0070933	Annexin B11-like Protein	<i>Tribolium castaneum</i>
Unigene0021752	DnaK protein	<i>Trichomonas vaginalis G3</i>
Unigene0066767	Hypothetical protein M514_21119, partial	<i>Trichuris suis</i>
Unigene0026784	Uncharacterized protein LOC106872177	<i>Octopus bimaculoides</i>
Unigene0025406	Cuticle protein CP1876	<i>Cancer pagurus</i>
Unigene0066169	RNA-directed DNA polymerase from mobile element jockey-like	<i>Hydra vulgaris</i>
Unigene0028426	Hypothetical protein LOTGIDRAFT_153639	<i>Lottia gigantea</i>
Unigene0028670	Endonuclease-reverse transcriptase	<i>Danaus plexippus</i>
Unigene0062264	Hypothetical protein CAPTEDRAFT_111329, partial	<i>Capitella teleta</i>
Unigene0045952	Perlucin-like	<i>Aplysia californica</i>
Unigene0016948	cuticle protein BD2	<i>Portunus pelagicus</i>
Unigene0074159	Chitinase	<i>Operophtera brumata</i>
Unigene0053792	Hypothetical protein EPH_0032430	<i>Eimeria praecox</i>
Unigene0075485	Uncharacterized protein LOC105675530	<i>Linepithema humile</i>
Unigene0074903	Ribosomal protein L40	<i>Hymenolepis microstoma</i>
Unigene0000910	Beta-crystallin A1	<i>Lepeophtheirus salmonis</i>
Unigene0010114	Calcified cuticle protein CP19.0 isoform A	<i>Callinectes sapidus</i>
Unigene0042544	Calcified cuticle protein CP19.0 isoform	<i>Callinectes sapidus</i>

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Unigene0072453	Calcified cuticle protein CP19.0 isoform B	<i>Callinectes sapidus</i>
Unigene0019577	Calcified cuticle protein CP14.1	<i>Callinectes sapidus</i>
Unigene0038920	Cuticle proprotein, partial	<i>Palaemon varians</i>
Unigene0040809	Nesprin-1 isoform X2	<i>Drosophila miranda</i>

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